

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Stephen Rawle	Art Unit :	3724
Serial No. :	10/798,112	Examiner :	Hwei-Siu Payer
Filed :	March 11, 2004	Conf. No. :	5924
Title :	SHAVING RAZORS WITH MULTIPLE BLADES		

Mail Stop Appeal Brief - Patents

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL APPEAL BRIEF

Appellant is appealing the rejection of claims 1-8 and 11-20 in the Office Action mailed September 12, 2007. A Notice of Appeal was filed on December 11, 2007. Appellant submits this brief as supplemental to the Appeal Brief filed on June 13, 2007. Appellant maintains that the pending claims are patentable and wishes to proceed directly to appeal.

(1) Real Party in Interest

The real party in interest is The Gillette Company, Prudential Tower Building, Boston, Massachusetts. The Gillette Company is owned by The Procter & Gamble Company.

(2) Related Appeals and Interferences

There are no related appeals or interferences.

(3) Status of Claims

Claims 1-8 and 11-20 are pending. Claims 9 and 10 have been canceled.

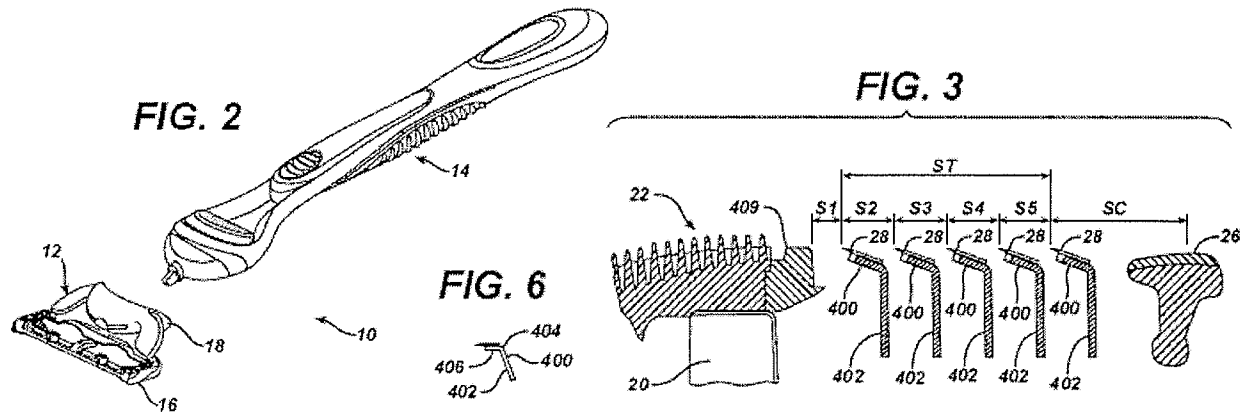
Claims 1-8 and 11-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gilder et al., U.S. Patent No. 6,212,777 ("Gilder '777") in view of Gooding, U.S. Patent No. 4,200,976 ("Gooding") and are being appealed herein.

(4) Status of Amendments

All amendments have been entered.

(5) Summary of Claimed Subject Matter

The claims relate to shaving razor blade units, such as those shown in Figs. 2 and 3, reproduced below. Fig. 2 depicts a shaving razor blade cartridge 12 and a handle 14. Fig. 3 depicts a vertical sectional view showing the relative positions of some of the components of a cartridge. Fig. 6 depicts a vertical sectional view of a cutting member.



Independent claim 1 is directed towards a shaving razor blade unit (see e.g., 12) including a housing (see e.g., 20), a group of at least five parallel blades (see e.g., 28) supported by the housing, the distance (see e.g., Fig. 3, ST) from the cutting edge of a first blade of the group to the last blade of the group being between 3.8 mm and 4.6 mm (see e.g., specification, page 4, line 3). The blades (see e.g., 28) are each mounted on respective support members (see e.g., 400) that are each movably mounted on said housing (see e.g., 20), each of said support members (see e.g., 400) having a blade platform portion (see e.g., 406) for supporting the respective blade (see e.g., 28) and a depending base portion (see e.g., 402) angled relative to the blade platform portion (see e.g., 406). The depending base portions (see e.g., 402) are arranged generally perpendicular to an imaginary shaving surface approximately intersecting the blade cutting edges (see e.g., Fig. 3). The blades (see e.g., 28) have a blade length extending rearward from the cutting edge (see e.g., Fig. 3) and the blade length is less than 1 mm (see e.g., specification, page 4, line 11).

Dependent claims 2-8, 12, 13, and 16 are dependent on independent claim 1. Claims 2 and 3 further require that the distance (see e.g., Fig. 3, ST) from the cutting edge of a first blade of the group to the last blade of the group be between 4.0 mm and 4.4 mm (see e.g.,

specification, page 4, line 4) and between 4.1 mm and 4.3 mm (see e.g., specification, page 4, lines 4-5) respectively. Claim 6 further requires the blades to have a blade tangent angle between 21° and 22° (see e.g., specification, page 2, lines 1-2). Claims 12 and 13 further require a blade length of less than 0.9 mm (see e.g., specification, page 4, line 12) or of about 0.85 mm (see e.g., specification, page 4, line 12) respectively. Claim 16 requires the depending base portion (see e.g., 402) to extend rearward of a blade end (see e.g., Fig. 7, 450; Fig. 3).

Independent claim 11 is directed towards a shaving razor blade unit (see e.g., 12) including a housing (see e.g., 20), and a group of at least five parallel blades (see e.g., 28) supported by the housing, the blades having an average interblade span between 0.95 mm and 1.15mm (see e.g., specification, page 3, lines 27-29). The blades (see e.g., 28) are each mounted on respective support members (see e.g., 400) that are each movably mounted on the housing (see e.g., 28), each of the support members (see e.g., 400) having a blade platform portion (see e.g., 406) for supporting the respective blade (see e.g., 28) and a depending base portion (see e.g., 402) angled relative to the blade platform portion (see e.g., 406). The depending base portions (402) are arranged generally perpendicular to an imaginary shaving surface approximately intersecting the blade cutting edges (see e.g., Fig. 3). The blades (see e.g., 28) have a blade length extending rearward from the cutting edge (see e.g., Fig. 3) and the blade length is less than 1 mm (see e.g., specification, page 4, line 11).

Claims 14, 15, and 17 are dependent on independent claim 11. Claims 14 and 15 further require a blade length of less than 0.9 mm (see e.g., specification, page 4, line 12) or of about 0.85 mm (see e.g., specification, page 4, line 12) respectively. Claim 17 requires the depending base portion (see e.g., 402) to extend rearward of a blade end (see e.g., Fig. 7, 450; Fig. 3).

Claims 18-20 are multiply dependent on claims 1 and 11. Claims 18-20 further require the thickness (see e.g., T) of each the support member (see e.g., 400) to be between 0.004 inch (0.10 mm) and 0.009 inch (0.23 mm), between 0.005 inch (0.13 mm) and 0.007 inch (0.18 mm), and about 0.006 inch (0.15 mm,) respectively (see e.g., specification, page 4, lines 15-17).

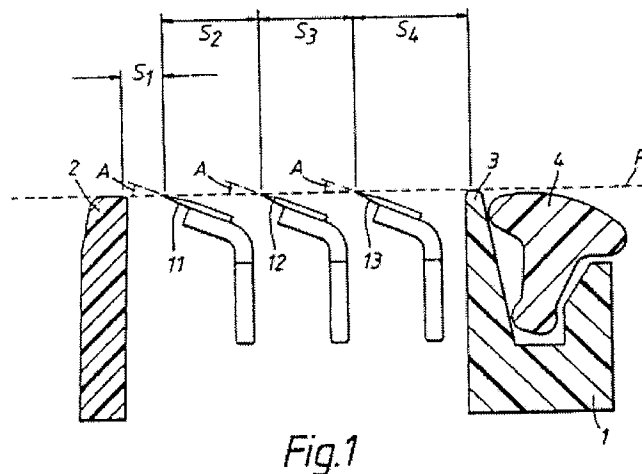
(6) Grounds of Rejection to be Reviewed on Appeal

Claims 1-8 and 11-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Gilder '404 in view of Gilder '777 and Gooding. Appellants request reversal of this rejection.

(7) Argument

The rejection of claims 1-8 and 11-20 under 35 U.S.C. §103(a) over Gilder '777 in view of Gooding is improper.

Gilder '777 discloses “[a] safety razor blade unit including a guard, a cap and a group of three blades with parallel sharpened edges located between the guard and cap.” (See e.g., Gilder '777, abstract). The blade support members of Gilder '777 are shown in Fig. 1 of Gilder '777, reproduced below.



Regarding the number of blades in the blade unit, Gilder '777 states the following:

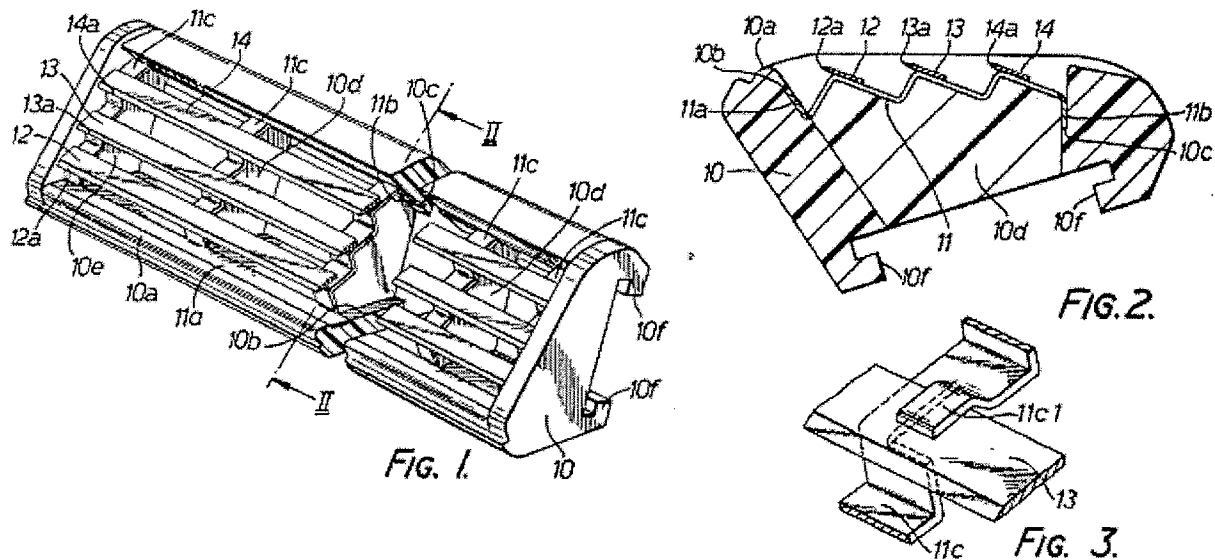
A blade unit having many blades can produce a closer shave than a similar blade unit with only one or two blades. However, closeness of shave obtained is only one parameter by which razor users judge the performance of a razor. Adding extra blades can have a serious detrimental influence on other blade unit characteristics, most notably the drag forces experienced as the blade unit is moved over the skin, with the consequence that the overall performance of the blade unit can be markedly inferior despite a closer shave being obtainable. As a result, to our knowledge no razors with blade units incorporating more than two blades have been successfully marketed to date. . . . It has been found that with a blade unit comprising three blades, the frictional drag forces can be kept at an acceptable level while allowing an improved shaving efficiency, by setting the blades relative to each other and to guard and cap surfaces positioned in front of and behind the blade edges, ***according to a particular geometrical disposition.***

(Gilder '777, col. 1, lines 19-37 (emphasis added)). Gilder '777 then goes on to describe a particular geometrical disposition for a razor with three blades that yields an acceptable level of drag forces while providing a closer shave.

In making the rejection of claims 1-8 and 11-20 under 35 U.S.C. § 103(a) based on the combination of Gilder '777 and Gooding, the Examiner asserts that "[t]he mere differences between Gilder et al. and the claimed invention reside in the number of blades and the blade length. . . . Specifically, Gilder et al. shows "three" rather than "five" blades as claimed and it is silent about the length of the blades." (Office Action, page 3, lines 19-22.) The Examiner then goes on to argue that because Gilder '777 mentions that more blades can allow for a closer shave "it would have been obvious to one skilled in the art at the time this invention was made to modify Gilder et al. by providing the three-blade blade unit with two additional blades for a closer shave as desired." (Office Action, page 4, lines 1-6.) The Examiner's argument, however, fails to consider that Gilder '777 discloses that adding blades increases frictional drag forces, which reduce the quality of the shave. Because Gilder '777 discloses *a particular geometry for a three blade design* that allows for acceptable drag forces while providing a closer shave, the artisan would not have considered adding blades to the blade unit of Gilder '777 to be obvious. In the present case there is nothing whatsoever in the art of record that would have led the artisan to believe that the Gilder '777 razor required further optimization in any respect. Instead, given the known problems of drag resistance and the fact that Gilder '777 discloses a geometry that has been optimized to provide an acceptable amount of drag in the disclosed three-blade unit, one having ordinary skill in the art would appreciate that increasing the number of blades would require a wholesale redesign of the Gilder '777 blade unit. A "suggested combination of references [that] requires a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate" does not establish a *prima facie* case of obviousness. (*In re Ratti*, 270 F.2d at 813, see also MPEP 2143.02(VI)). Accordingly, the rejection is improper and should be withdrawn.

The Examiner then goes on to argue that "it would have been obvious to further modify Gilder et al. by having the blade length in the range of less than 1 mm depending upon the number of blades to accommodate a given width of the shaving unit" based on the disclosure of

Gooding. (Office Action, page 4, lines 11-14.) Although Gooding does disclose that the width of the blades “is narrow, being for example within the range of 0.8 to 2.0 millimeters, preferably 1.25 millimeters with a thickness of 0.1 of a millimeter,” Gooding discloses a substantially different type of blade unit. (Gooding, col. 2, lines 9-15). As shown in Figs. 1, 2, and 3 of Gooding, reproduced below, Gooding discloses an “open framework” with “supporting surfaces within the boundaries of said framework to which intermediate portions of said razor [sic] blade are attached leaving substantial lengths of said razor [sic] blade clear of said framework to permit the unimpeded passage of cut hairs and shaving soap past the cutting edge.” (Gooding, col. 1, lines 15-26). Thus, as can be seen in Fig. 1, supporting surfaces 11c interrupt the rinse-through area between the blades at intervals along the blade length, and thus in the Gooding razor unit it is important that the blades be narrow in order to allow for the passage of cut hair between the blades.



The Office Action mailed 1/18/2007 asserts that based upon this disclosure of Gooding, “it would have been obvious to one skilled in the art to further modify Gilder et al. by having the blade’s width in the range of less than 1 mm depending upon the number of blades that is to be accommodated in a given width of the shaving unit.” Appellant disagrees. The main purpose of disclosing a narrow blade width for use in the Gooding device is to allow hair to pass through the open frame structure. One having ordinary skill in the art at the time of invention would appreciate this and recognize that this would not apply to the blade support structure of Gilder

'777 because the blade supports of Gilder '777 extend along the length of each blade, under the blade, and do not extend between the blades and thus do not interfere with rinse-through of hair. Although it may be advantageous to use narrow width blades in the Gooding open framework design, an artisan having ordinary skill in the art would not have made the asserted combination because the advantages discussed by Gooding would not apply to the very different razor cartridge disclosed in Gilder '777. Instead, the artisan would have recognized that changing the blade width in the Gilder '777 blade unit would require revisiting the other aspects of the blade unit geometry, which Gilder '777 indicates have been optimized to provide a desired balance of shaving performance characteristics.

Furthermore, the Examiner's argument that one having ordinary skill in the art would have chosen a blade width "depending upon the number of blades that is to be accommodated in a given width of the shaving unit" is inconsistent with the Examiner's reliance upon the spacing disclosed by Gilder '777. The Examiner has not asserted that it would have been obvious to use a more compact blade spacing than the inter-blade spacing of between 1.0 and 2.0 mm disclosed by Gilder '777. Instead, the Examiner *relies* on the lower end of this range in making the rejection of the claims. Regardless, even at a spacing of 1.0 mm, a blade length of less than 1.0 mm would not be required because the blades are angled. (See Gilder '777, col. 3, lines 28-30).

Furthermore, the use of narrower razor blades with the blade supporting structures disclosed by Gilder '777 would not impact the number of blades that could be included "in a given width of the shaving unit" because the back (bent) parts of the Gilder '777 blade support members are not confined within the width of the blades and would still interfere with adjacent blades. (See Fig. 1 of Gilder '777, above.)

Accordingly, one having ordinary skill in the art at the time of invention would not have considered it obvious to modify the blade length in the Gilder '777 blade unit based on the disclosures of Gilder '777 and Gooding.

Furthermore, with specific regard to claims 12-15, the Examiner has not provided a sufficient reason why one having ordinary skill in the art would modify the blade unit of Gilder '777 based on the teachings of Gooding to have a blade length of "less than 0.9 mm" or of "about 0.85 mm." Gilder '777 contains no disclosure of a blade length of less than 0.9 mm or of about 0.85 mm. Although Gooding discloses blade lengths "within the range of 0.8 to 2.0

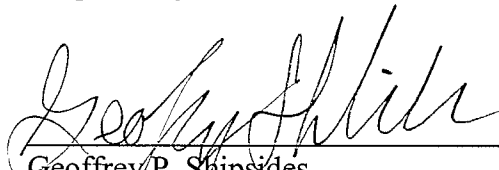
millimeters, preferably 1.25 millimeters," (See Gooding, col. 2, lines 9-14), the artisan would not have modified the Gilder '777 razor cartridge to utilize such blade lengths for the reasons discussed above. As discussed above, Gilder '777 discloses a minimum spacing between adjacent blades of 1 mm and discloses a blade support structure with a back end (the bent portion) that extends past the back end of the blade towards the cutting edge of the adjacent blade, and thus having a blade length in the claimed range on the Gilder '777 device would not allow the use of more blades in the same sized blade unit as alleged. Accordingly, this rejection is in error and should be withdrawn.

Because the Office Action mailed 9/12/2007 failed to present a *prima facie* case of obviousness, the rejections of claims 1-8 and 11-20 must be withdrawn. Accordingly, Appellants submit that claims 1-8 and 11-20 are in condition for allowance.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 2/6/08



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Claims Appendix

1. A shaving razor blade unit comprising
a housing, and
a group of at least five parallel blades supported by said housing, the distance from the cutting edge of a first blade of said group to a last blade of said group being between 3.8 mm and 4.6 mm,
wherein the blades (28) are each mounted on respective support members (400) that are each movably mounted on said housing, each of said support members (400) having a blade platform portion (406) for supporting the respective blade (28) and a depending base portion (402) angled relative to the blade platform portion (406),
said depending base portions (402) being arranged generally perpendicular to an imaginary shaving surface approximately intersecting the blade cutting edges (408), and
wherein
the blades (28) have a blade length (LB) extending rearward from the cutting edge (408), said blade length (LB) being less than 1 mm.
2. The blade unit of claim 1 wherein said distance is between 4.0 mm and 4.4 mm.
3. The blade unit of claim 1 wherein said distance is between 4.1 mm and 4.3 mm.
4. The blade unit of claim 1 wherein the span between cutting edges is between 0.95 mm and 1.1 mm.

5. The blade unit of claim 1 wherein the exposure of blades between said first blade and said last blade is approximately 0.0.
6. The blade unit of claim 1 wherein said blades have a blade tangent angle between 21° and 22°.
7. The blade unit of claim 1 wherein said first blade has a negative exposure.
8. The blade unit of claim 1 wherein said last blade has a positive exposure.
11. A shaving razor blade unit comprising
 - a housing, and
 - a group of at least five parallel blades supported by said housing, said blades having an average interblade span between 0.95 mm and 1.15mm,
 - wherein the blades (28) are each mounted on respective support members (400) that are each movably mounted on said housing, each of said support members (400) having a blade platform portion (406) for supporting the respective blade (28) and a depending base portion (402) angled relative to the blade platform portion (406),
 - said depending base portions (402) being arranged generally perpendicular to an imaginary shaving surface approximately intersecting the blade cutting edges (408), and
 - wherein

the blades (28) have a blade length (LB) extending rearward from the cutting edge (408), said blade length (LB) being less than 1 mm.

12. The blade unit of claim 1 wherein said blade length is less than 0.9 mm.
13. The blade unit of claim 12 wherein said blade length is about 0.85 mm.
14. The blade unit of claim 11 wherein said blade length is less than 0.9 mm.
15. The blade unit of claim 14 wherein said blade length is about 0.85 mm.
16. The blade unit of claim 1 wherein said depending base portion (402) extends rearward of a blade end (450).
17. The blade unit of claim 11 wherein said depending base portion (402) extends rearward of a blade end (450).
18. The blade unit of claim 1 or 11 wherein the thickness (T) of each said support member (400) is between 0.004 inch (0.10 mm) and 0.009 inch (0.23 mm).
19. The blade unit of claim 18 wherein the thickness (T) is between 0.005 inch (0.13 mm) and 0.007 inch (0.18 mm).

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20. The blade unit of claim 19 wherein the thickness (T) is about 0.006 inch (0.15 mm).

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Evidence Appendix

None.

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Related Proceedings Appendix

None.